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=> s (facciotti, d?)/au

L1 40 (FACCIOTTI, D?)/AU

=> s (metz, j?)/au

L2 1215 (METZ, J?)/AU

=> s (lassner, m?)/au

L3 122 (LASSNER, M?)/AU

=> s l1 or l2 or l3

L4 1336 L1 OR L2 OR L3

=> s l4 and (epa or dha or pufa or docosahexenoic or eicosapentenoic)/ab,bi

L5 28 L4 AND (EPA OR DHA OR PUFA OR DOCOSAHEXENOIC OR
EICOSAPENTENOIC
)/AB,BI

=> dup rem l5

PROCESSING COMPLETED FOR L5

L6 25 DUP REM L5 (3 DUPLICATES REMOVED)

=> d l6 1-25 ti py

L6 ANSWER 1 OF 25 CA COPYRIGHT 2008 ACS on STN

TI Polyunsaturated fatty acid polyketide synthase domain exchange fusion
proteins and their use in modifying polyunsaturated fatty acid profiles in
plant oils

PY 2008

L6 ANSWER 2 OF 25 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN

TI ***PUFA*** polyketide synthase systems and uses thereof.

PY 2007

L6 ANSWER 3 OF 25 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN

TI ***Pufa*** polyketide synthase systems and uses thereof.

PY 2007

L6 ANSWER 4 OF 25 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN

TI Nucleic acid molecule encoding ORFA of a ***PUFA*** polyketide synthase system and uses thereof.

PY 2007

L6 ANSWER 5 OF 25 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN

TI ***PUFA*** polyketide synthase systems and uses thereof.

PY 2007

L6 ANSWER 6 OF 25 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN

TI Schizochytrium PKS genes.

PY 2007

L6 ANSWER 7 OF 25 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN

TI ***PUFA*** polyketide synthase systems and uses thereof.

PY 2007

L6 ANSWER 8 OF 25 CA COPYRIGHT 2008 ACS on STN

TI Polyunsaturated fatty acid production in genetically modified organisms using ***PUFA*** polyketide synthase systems

PY 2007

L6 ANSWER 9 OF 25 CA COPYRIGHT 2008 ACS on STN

TI Recombinant plant seed oils containing omega 3 and 6 polyunsaturated fatty acids

PY 2007

L6 ANSWER 10 OF 25 CA COPYRIGHT 2008 ACS on STN

TI Polyunsaturated fatty acid production in genetically modified organisms using ***PUFA*** polyketide synthase systems

PY 2007

L6 ANSWER 11 OF 25 CA COPYRIGHT 2008 ACS on STN

TI Seed oils containing polyunsaturated fatty acids derived from transgenic plants

PY 2007

L6 ANSWER 12 OF 25 CA COPYRIGHT 2008 ACS on STN

TI The genes for the enzymes of the polyunsaturated fatty acid polyketide synthase of *Schizochytrium* and their use in the manufacture of polyunsaturated fatty acids

PY 2007

L6 ANSWER 13 OF 25 CA COPYRIGHT 2008 ACS on STN

TI The genes for the enzymes of the polyunsaturated fatty acid polyketide synthase of *Schizochytrium* and their use in the manufacture of polyunsaturated fatty acids

PY 2006

L6 ANSWER 14 OF 25 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on

STN

DUPLICATE 1

TI Fatty acid production in *Schizochytrium* sp.: Involvement of a polyunsaturated fatty acid synthase and a type I fatty acid synthase.

PY 2006

L6 ANSWER 15 OF 25 CA COPYRIGHT 2008 ACS on STN

TI Use of polyunsaturated fatty acid polyketide synthase genes of *Shewanella japonica* and *Shewanella olleyana* for potential use in preparation of bioactive molecules

PY 2005

L6 ANSWER 16 OF 25 CA COPYRIGHT 2008 ACS on STN

TI Polyunsaturated fatty acid polyketide synthase genes and enzyme systems from *Thraustochytrium* and *Schizochytrium* and their use for preparation of bioactive molecules

PY 2004

L6 ANSWER 17 OF 25 CA COPYRIGHT 2008 ACS on STN

TI Polyunsatd. fatty acid polyketide synthase genes and enzymes from *Thraustochytrium* and *Schizochytrium* and their use for prepn. of bioactive mols.

PY 2004

L6 ANSWER 18 OF 25 CA COPYRIGHT 2008 ACS on STN

TI Protein and cDNA sequences of a *Schizochytrium aggregatum* polyketide-like synthase (PKS-like) gene and use

PY 2003

L6 ANSWER 19 OF 25 CA COPYRIGHT 2008 ACS on STN

TI Characterization and sequence of polyunsaturated fatty acid (***PUFA***) polyketide synthase systems from Schizochytrium and uses for production of PUFAs, drugs and other bioactive molecules

PY 2002

L6 ANSWER 20 OF 25 CA COPYRIGHT 2008 ACS on STN

TI ***PUFA*** polyketide synthase systems from Thraustochytrid microorganisms and their uses for genetic engineering and production of bioactive molecules

PY 2002

L6 ANSWER 21 OF 25 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on

STN DUPLICATE 2

TI Production of polyunsaturated fatty acids by polyketide synthases in both prokaryotes and eukaryotes.

PY 2001

L6 ANSWER 22 OF 25 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on

STN

TI Production of polyunsaturated fatty acids by expression of polyketide-like synthesis genes in plants.

PY 2000

L6 ANSWER 23 OF 25 CA COPYRIGHT 2008 ACS on STN

TI Schizochytrium polyketide synthase genes and transgenic plants for polyunsaturated long-chain fatty acid production

PY 2000

L6 ANSWER 24 OF 25 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on

STN DUPLICATE 3

TI Monounsaturated but not polyunsaturated fatty acids are required for growth of the deep-sea bacterium Photobacterium profundum SS9 at high pressure and low temperature.

PY 1999

L6 ANSWER 25 OF 25 CA COPYRIGHT 2008 ACS on STN

TI Polyketide synthesis genes of marine microbes and production of polyunsaturated fatty acids and ***PUFA*** -containing plant oils with transgenic plants

PY 1998

=> d l6 1-25 ab bib

L6 ANSWER 1 OF 25 CA COPYRIGHT 2008 ACS on STN

AB Domain exchange fusion proteins of polyunsatd. fatty acid (***PUFA***) polyketide synthases (PKS), involving the ***PUFA*** PKSs of Schizochytrium and Thraustochytrium are described for use in modifying the .omega.-6/.omega.-3 ***PUFA*** ratio of vegetable oils. Specifically, the enzymes have the .beta.-hydroxyacyl-ACP dehydrase domains exchanged. Construction of expression vectors for such genes and their use in modifying patterns of polyunsatd. fatty acid synthesis in Schizochytrium is demonstrated.

AN 148:185811 CA <<LOGINID::20080318>>

TI Polyunsaturated fatty acid polyketide synthase domain exchange fusion proteins and their use in modifying polyunsaturated fatty acid profiles in plant oils

IN Weaver, Craig A.; Zirkle, Ross; Doherty, Daniel H.; ***Metz, James G.***

PA Martek Biosciences Corporation, USA

SO U.S. Pat. Appl. Publ., 64pp., Cont.-in-part of U.S. Ser. No. 689,438.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 15

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	-----
PI US 2008022422	A1	20080124	US 2007-749686	20070516
US 6566583	B1	20030520	US 1999-231899	19990114
US 2002194641	A1	20021219	US 2002-124800	20020416
US 7247461	B2	20070724		
CN 1807637	A	20060726	CN 2006-10005867	20020416
US 2004235127	A1	20041125	US 2004-810352	20040326
US 7211418	B2	20070501		
US 2005100995	A1	20050512	US 2004-965017	20041013
US 7217856	B2	20070515		
US 2007089199	A1	20070419	US 2006-452138	20060612
US 7271315	B2	20070918		
US 2008005811	A1	20080103	US 2007-668333	20070129

L6 ANSWER 2 OF 25 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN

AB The invention generally relates to polyunsaturated fatty acid (***PUFA***) polyketide synthase (PKS) systems isolated from or derived from non-bacterial organisms, to homologues thereof, to isolated nucleic acid molecules and recombinant nucleic acid molecules encoding biologically active domains of such a ***PUFA*** PKS system, to genetically modified organisms comprising ***PUFA*** PKS systems, to

methods of making and using such systems for the production of bioactive molecules of interest, and to novel methods for identifying new bacterial and non-bacterial microorganisms having such a ***PUFA*** PKS system.

AN 2007:606119 BIOSIS <<LOGINID::20080318>>

DN PREV200700610965

TI ***PUFA*** polyketide synthase systems and uses thereof.

AU Anonymous; ***Metz, James G.*** [Inventor]; Flatt, James H. [Inventor]; Kuner, Jerry M. [Inventor]; Barclay, William R. [Inventor]

CS Longmont, CO USA

ASSIGNEE: Martek Biosciences Corporation

PI US 07256023 20070814

SO Official Gazette of the United States Patent and Trademark Office Patents, (AUG 14 2007)

CODEN: OGUPE7. ISSN: 0098-1133.

DT Patent

LA English

ED Entered STN: 6 Dec 2007

Last Updated on STN: 6 Dec 2007

L6 ANSWER 3 OF 25 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN

AB The invention generally relates to polyunsaturated fatty acid (***PUFA***) polyketide synthase (PKS) systems isolated from or derived from non-bacterial organisms, to homologues thereof, to isolated nucleic acid molecules and recombinant nucleic acid molecules encoding biologically active domains of such a ***PUFA*** PKS system, to genetically modified organisms comprising ***PUFA*** PKS systems, to methods of making and using such systems for the production of bioactive molecules of interest, and to novel methods for identifying new bacterial and non-bacterial microorganisms having such a ***PUFA*** PKS system.

AN 2007:606118 BIOSIS <<LOGINID::20080318>>

DN PREV200700610964

TI ***Pufa*** polyketide synthase systems and uses thereof.

AU Anonymous; ***Metz, James G.*** [Inventor]; Flatt, James H. [Inventor]; Kuner, Jerry M. [Inventor]; Barclay, William R. [Inventor]

CS Longmont, CO USA

ASSIGNEE: Martek Biosciences Corporation

PI US 07256022 20070814

SO Official Gazette of the United States Patent and Trademark Office Patents, (AUG 14 2007)

CODEN: OGUPE7. ISSN: 0098-1133.

DT Patent

LA English

ED Entered STN: 6 Dec 2007

Last Updated on STN: 6 Dec 2007

L6 ANSWER 4 OF 25 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN

AB The invention generally relates to polyunsaturated fatty acid (***PUFA***) polyketide synthase (PKS) systems isolated from or derived from *Schizochytrium* sp., to homologues thereof, to isolated nucleic acid molecules and recombinant nucleic acid molecules encoding biologically active domains of such a ***PUFA*** PKS system, to genetically modified organisms comprising ***PUFA*** PKS systems, to methods of making and using such systems for the production of bioactive molecules of interest, and to novel methods for identifying new bacterial and non-bacterial microorganisms having such a ***PUFA*** PKS system.

AN 2007:604392 BIOSIS <<LOGINID::20080318>>

DN PREV200700609596

TI Nucleic acid molecule encoding ORFA of a ***PUFA*** polyketide synthase system and uses thereof.

AU Anonymous; ***Metz, James G.*** [Inventor]; Flatt, James H. [Inventor]; Kuner, Jerry M. [Inventor]; Barclay, William R. [Inventor]

CS Longmont, CO USA

ASSIGNEE: Martek Biosciences Corporation

PI US 07247461 20070724

SO Official Gazette of the United States Patent and Trademark Office Patents, (JUL 24 2007)

CODEN: OGUPE7. ISSN: 0098-1133.

DT Patent

LA English

ED Entered STN: 6 Dec 2007

Last Updated on STN: 6 Dec 2007

L6 ANSWER 5 OF 25 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN

AB Disclosed are the complete polyunsaturated fatty acid (***PUFA***) polyketide synthase (PKS) systems from the bacterial microorganisms *Shewanella japonica* and *Shewanella olleyana*, and biologically active fragments and homologues thereof. More particularly, this invention relates to nucleic acids encoding such ***PUFA*** PKS systems, to proteins and domains thereof that comprise such ***PUFA*** PKS systems, to genetically modified organisms (plants and microorganisms) comprising such ***PUFA*** PKS systems, and to methods of making and using the ***PUFA*** PKS systems disclosed herein. This invention also relates to genetically modified plants and microorganisms and methods to efficiently produce lipids enriched in various polyunsaturated fatty acids (PUFAs) as well as other bioactive molecules by manipulation of a ***PUFA*** polyketide synthase (PKS) system.

AN 2007:347524 BIOSIS <<LOGINID::20080318>>

DN PREV200700346098

TI ***PUFA*** polyketide synthase systems and uses thereof.

AU Anonymous; Weaver, Craig A. [Inventor]; Zirkle, Ross [Inventor];
Metz, James G. [Inventor]
CS Boulder, CO USA
ASSIGNEE: Martek Biosciences Corporation
PI US 07217856 20070515
SO Official Gazette of the United States Patent and Trademark Office Patents,
(MAY 15 2007)
CODEN: OGUPE7. ISSN: 0098-1133.
DT Patent
LA English
ED Entered STN: 6 Jun 2007
Last Updated on STN: 6 Jun 2007

L6 ANSWER 6 OF 25 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on
STN

AB The present invention relates to compositions and methods for preparing
poly-unsaturated long chain fatty acids in plants, plant parts and plant
cells, such as leaves, roots, fruits and seeds. Nucleic acid sequences
and constructs encoding PKS-like genes required for the poly-unsaturated
long chain fatty acid production, including the genes responsible for
eicosapentenoic acid production of *Shewanella putrefaciens* and
novel genes associated with the production of ***docosahexenoic***
acid in *Vibrio marinus* are used to generate transgenic plants, plant parts
and cells which contain and express one or more transgenes encoding one or
more of the PKS-like genes associated with such long chain polyunsaturated
fatty acid production. Expression of the PKS-like genes in the plant
system permits the large scale production of poly-unsaturated long chain
fatty acids such as ***eicosapentenoic*** acid and
docosahexenoic acid for modification of the fatty acid profile of
plants, plant parts and tissues. Manipulation of the fatty acid profiles
allows for the production of commercial quantities of novel plant oils and
products.

AN 2007:322838 BIOSIS <<LOGINID::20080318>>
DN PREV200700321131
TI Schizochytrium PKS genes.
AU Anonymous; ***Facciotti, Daniel*** [Inventor]; ***Metz, James***
George [Inventor]; ***Lassner, Michael*** [Inventor]
CS Davis, CA USA
ASSIGNEE: Martek Biosciences Corporation
PI US 07214853 20070508
SO Official Gazette of the United States Patent and Trademark Office Patents,
(MAY 8 2007)
CODEN: OGUPE7. ISSN: 0098-1133.
DT Patent
LA English
ED Entered STN: 24 May 2007

Last Updated on STN: 24 May 2007

L6 ANSWER 7 OF 25 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN

AB The invention generally relates to polyunsaturated fatty acid (
 PUFA) polyketide synthase (PKS) systems, to homologues thereof, to isolated nucleic acid molecules and recombinant nucleic acid molecules encoding biologically active domains of such a ***PUFA*** PKS system, to genetically modified organisms comprising ***PUFA*** PKS systems, to methods of making and using such systems for the production of bioactive molecules of interest, and to novel methods for identifying new bacterial and non-bacterial microorganisms having such a ***PUFA*** PKS system.

AN 2007:322344 BIOSIS <<LOGINID::20080318>>

DN PREV200700321406

TI ***PUFA*** polyketide synthase systems and uses thereof.

AU Anonymous; ***Metz, James G.*** [Inventor]; Weaver, Craig A. [Inventor]; Barclay, William R. [Inventor]; Flatt, James H. [Inventor]

CS Longmont, CO USA

ASSIGNEE: Martek Biosciences Corporation

PI US 07211418 20070501

SO Official Gazette of the United States Patent and Trademark Office Patents, (MAY 1 2007)

CODEN: OGUPE7. ISSN: 0098-1133.

DT Patent

LA English

ED Entered STN: 24 May 2007

Last Updated on STN: 24 May 2007

L6 ANSWER 8 OF 25 CA COPYRIGHT 2008 ACS on STN

AB Disclosed are novel acyl-CoA synthetases and novel acyltransferases, nucleic acid mols. encoding the same, recombinant nucleic acid mols. and recombinant host cells comprising such nucleic acid mols., genetically modified organisms (microorganisms and plants) comprising the same, and methods of making and using the same. Also disclosed are genetically modified organisms (e.g., plants, microorganisms) that have been genetically modified to express a polyketide synthase-like system for the prodn. of polyunsatd. fatty acids (PUFAs) (a ***PUFA*** PKS system or ***PUFA*** synthase), wherein the organisms have been modified to express an acyl-CoA synthetase, to express an acyltransferase, to delete or inactivate a fatty acid synthase (FAS) expressed by the organism in order to reduce competition for malonyl-CoA with the ***PUFA*** synthase or to increase the level of malonyl CoA in the organism, and to inhibit .beta.-ketoacyl-ACP synthase II or III by RNAi or antisense technol. Addnl. modifications, and methods to make and use such organisms, in addn. to PUFAs and oils obtained from such organisms, are

disclosed, along with various products including such PUFAs and oils.
 AN 147:337159 CA <<LOGINID::20080318>>
 TI Polyunsaturated fatty acid production in genetically modified organisms
 using ***PUFA*** polyketide synthase systems
 IN ***Metz, James G.*** ; Kuner, Jerry M.; Lippmeier, James Casey;
 Moloney, Maurice Martin; Nykiforuk, Cory Lee
 PA Martek Biosciences Corporation, USA; Sembiosys Genetics Inc.
 SO PCT Int. Appl., 181pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 15

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2007106905	A2	20070920	WO 2007-US64106	20070315
US 2007220634	A1	20070920	US 2007-686872	20070315
US 2007245431	A1	20071018	US 2007-686850	20070315
US 2007270494	A1	20071122	US 2007-686856	20070315
PRAI US 2006-783205P	P	20060315		
US 2006-784616P	P	20060321		

L6 ANSWER 9 OF 25 CA COPYRIGHT 2008 ACS on STN

AB Disclosed are plants that have been genetically modified to express a
 PKS-like system for the prodn. of PUFAs (a ***PUFA*** PKS system),
 wherein oils produced by the plant contain at least one ***PUFA***
 produced by the ***PUFA*** PKS system and are free of the mixed
 shorter-chain and less unsatd. PUFAs that are fatty acid products produced
 by the modification of products of the FAS system in std. fatty acid
 pathways. Also disclosed are the oil seeds, oils, and products comprising
 such oils produced by this system, as well as methods for producing such
 plants.

AN 147:361066 CA <<LOGINID::20080318>>
 TI Recombinant plant seed oils containing omega 3 and 6 polyunsaturated fatty
 acids
 IN ***Metz, James G.***
 PA Martek Biosciences Corporation, USA
 SO PCT Int. Appl., 91pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 15

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2007106904	A2	20070920	WO 2007-US64105	20070315
WO 2007106904	A3	20080124		
US 2007220634	A1	20070920	US 2007-686872	20070315

US 2007245431 A1 20071018 US 2007-686850 20070315
US 2007270494 A1 20071122 US 2007-686856 20070315
PRAI US 2006-783205P P 20060315
US 2006-784616P P 20060321

L6 ANSWER 10 OF 25 CA COPYRIGHT 2008 ACS on STN

AB Disclosed are novel acyl-CoA synthetases and novel acyltransferases, nucleic acid mols. encoding the same, recombinant nucleic acid mols. and recombinant host cells comprising such nucleic acid mols., genetically modified organisms (microorganisms and plants) comprising the same, and methods of making and using the same. Also disclosed are genetically modified organisms (e.g., plants, microorganisms) that have been genetically modified to express a polyketide synthase-like system for the prodn. of polyunsatd. fatty acids (PUFAs) (a ***PUFA*** PKS system or ***PUFA*** synthase), wherein the organisms have been modified to express an acyl-CoA synthetase, to express an acyltransferase, to delete or inactivate a fatty acid synthase (FAS) expressed by the organism in order to reduce competition for malonyl-CoA with the ***PUFA*** synthase or to increase the level of malonyl CoA in the organism, and to inhibit .beta.-ketoacyl-ACP synthase II or III by RNAi or antisense technol. Addnl. modifications, and methods to make and use such organisms, in addn. to PUFAs and oils obtained from such organisms, are disclosed, along with various products including such PUFAs and oils.

AN 147:337160 CA <<LOGINID::20080318>>

TI Polyunsaturated fatty acid production in genetically modified organisms using ***PUFA*** polyketide synthase systems

IN ***Metz, James G.*** ; Kuner, Jerry M.; Lippmeier, James Casey

PA Martek Biosciences Corporation, USA

SO PCT Int. Appl., 181pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 15

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2007106903	A2	20070920	WO 2007-US64104	20070315
US 2007220634	A1	20070920	US 2007-686872	20070315
US 2007245431	A1	20071018	US 2007-686850	20070315
US 2007270494	A1	20071122	US 2007-686856	20070315
PRAI US 2006-783205P	P	20060315		
US 2006-784616P	P	20060321		

L6 ANSWER 11 OF 25 CA COPYRIGHT 2008 ACS on STN

AB Disclosed are plants that have been genetically modified to express a PKS-like system for the prodn. of PUFAs (a ***PUFA*** PKS system), wherein oils produced by the plant contain at least one ***PUFA***

produced by the ***PUFA*** PKS system and are free of the mixed shorter-chain and less unsatd. PUFAs that are fatty acid products produced by the modification of products of the FAS system in std. fatty acid pathways. Also disclosed are the oil seeds, oils, and products comprising such oils produced by this system, as well as methods for producing such plants.

AN 147:444085 CA <<LOGINID::20080318>>

TI Seed oils containing polyunsaturated fatty acids derived from transgenic plants

IN ***Metz, James G.***

PA Martek Biosciences Corporation, USA

SO U.S. Pat. Appl. Publ., 39pp., Cont.-in-part of U.S. Ser. No. 452,138.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 15

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	-----
PI US 2007244192	A1	20071018	US 2007-686866	20070315
US 6566583	B1	20030520	US 1999-231899	19990114
US 2002194641	A1	20021219	US 2002-124800	20020416
US 7247461	B2	20070724		
CN 1807637	A	20060726	CN 2006-10005867	20020416
US 2004235127	A1	20041125	US 2004-810352	20040326
US 7211418	B2	20070501		
US 2005100995	A1	20050512	US 2004-965017	20041013
US 7217856	B2	20070515		
US 2007089199	A1	20070419	US 2006-452138	20060612
US 7271315	B2	20070918		

L6 ANSWER 12 OF 25 CA COPYRIGHT 2008 ACS on STN

AB The sequences of the three genes of Schizochytrium that encode the polyunsatd. fatty acid (***PUFA***) polyketide synthase (PKS) are detd. and functions assigned to the gene products. These genes may be used to modify patterns of polyunsatd. fatty acid biosynthesis in plants and prokaryotic and eukaryotic microorganisms.

AN 146:436269 CA <<LOGINID::20080318>>

TI The genes for the enzymes of the polyunsaturated fatty acid polyketide synthase of Schizochytrium and their use in the manufacture of polyunsaturated fatty acids

IN ***Metz, James G.*** ; Flatt, James H.; Kuner, Jerry M.; Barclay, William R.

PA Martek Biosciences Corporation, USA

SO U.S. Pat. Appl. Publ., 136pp., Cont.-in-part of U.S. Ser. No. 124,800.

CODEN: USXXCO

DT Patent

LA English
FAN.CNT 15

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2007089199	A1	20070419	US 2006-452138	20060612
US 7271315	B2	20070918		
US 6566583	B1	20030520	US 1999-231899	19990114
US 2002194641	A1	20021219	US 2002-124800	20020416
US 7247461	B2	20070724		
CN 1807637	A	20060726	CN 2006-10005867	20020416
US 2007244192	A1	20071018	US 2007-686866	20070315
US 2008022422	A1	20080124	US 2007-749686	20070516

L6 ANSWER 13 OF 25 CA COPYRIGHT 2008 ACS on STN

AB Disclosed are the complete polyunsatd. fatty acid (***PUFA***) polyketide synthase (PKS) systems from Schizochytrium, and biol. active fragments and homologues thereof. More particularly, this invention relates to nucleic acids encoding such ***PUFA*** PKS systems, to proteins and domains thereof that comprise such ***PUFA*** PKS systems, to genetically modified organisms (plants and microorganisms) comprising such ***PUFA*** PKS systems, and to methods of making and using the ***PUFA*** PKS systems disclosed herein. This invention also relates to genetically modified plants and microorganisms and methods to efficiently produce lipids enriched in various polyunsatd. fatty acids (PUFAs) as well as other bioactive mols. by manipulation of a ***PUFA*** polyketide synthase (PKS) system.

AN 146:76112 CA <<LOGINID::20080318>>

TI The genes for the enzymes of the polyunsaturated fatty acid polyketide synthase of Schizochytrium and their use in the manufacture of polyunsaturated fatty acids

IN ***Metz, James G.*** ; Flatt, James H.; Kuner, Jerry M.

PA Martek Biosciences Corporation, USA

SO PCT Int. Appl., 220pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 15

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2006135866	A2	20061221	WO 2006-US22893	20060612
PRAI US 2005-689167P	P	20050610		
US 2006-784616P	P	20060321		

L6 ANSWER 14 OF 25 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation
on

STN

DUPLICATE 1

AB Schizochytrium sp. is a marine microalga that has been developed as a commercial source for docosahexaenoic acid (***DHA*** , C22:6 omega-3), enriched biomass, and oil. Previous work suggested that the ***DHA*** , as well as docosapentaenoic acid (DPA, C22:5 omega-6), that accumulate in Schizochytrium are products of a multi-subunit polyunsaturated fatty acid (***PUFA***) synthase (1). Here we show data to support this view and also provide information on other aspects of fatty acid synthesis in this organism. Three genes encoding subunits of the ***PUFA*** synthase were isolated from genomic DNA and expressed in E coli along with an essential accessory gene encoding a phosphopantetheinyl transferase (PPTase). The resulting transformants accumulated both ***DHA*** and DPA. The ratio of ***DHA*** to DPA was approximately the same as that observed in Schizochytrium. Treatment of Schizochytrium cells with certain levels of cerulenin resulted in inhibition of ¹⁴C acetate incorporation into short chain fatty acids without affecting labeling of PUFAs, indicating distinct biosynthetic pathways. A single large gene encoding the presumed short chain fatty acid synthase (FAS) was cloned and sequenced. Based on sequence homology and domain organization, the Schizochytrium FAS resembles a fusion of fungal FAS beta and alpha subunits.

AN 2006:646205 BIOSIS <<LOGINID::20080318>>

DN PREV200600638916

TI Fatty acid production in Schizochytrium sp.: Involvement of a polyunsaturated fatty acid synthase and a type I fatty acid synthase.

AU Hauvermale, A.; Kuner, J.; Rosenzweig, B.; Guerra, D.; Diltz, S.;
Metz, J. G. [Reprint Author]

CS Martek Biosci Boulder Corp, 4909 Nautilus Court N,Suite 208, Boulder, CO
80301 USA
jmetz@martekbio.com

SO Lipids, (AUG 2006) Vol. 41, No. 8, pp. 739-747.
CODEN: LPDSAP. ISSN: 0024-4201.

DT Article

LA English

ED Entered STN: 22 Nov 2006

Last Updated on STN: 22 Nov 2006

L6 ANSWER 15 OF 25 CA COPYRIGHT 2008 ACS on STN

AB PUFAS PKS systems produce PUFAs as a natural product of the system, and comprise several multifunctional proteins assembled into a complex that conducts both iterative processing of the fatty acid chain as well as noniterative processing, including cis-trans isomerization and enoyl redn. reactions in selected system. Three open reading frames (OrfA, OrfB, and OrfC) encoding such ***PUFA*** PKS enzymes were cloned, sequenced, and characterized from both Schizochytrium and Thraustochytrium. Genes encoding Schizochytrium ***PUFA*** PKS can be selectively inactivated

(knocked out) by homologous recombination resulting in cells that require ***PUFA*** supplementation for growth, and inactivated ***PUFA*** genes can be replaced at the same site with active forms of the genes in order to restore ***PUFA*** synthesis. Some or all portions of Thraustochytrium 23B ***PUFA*** PKS can function in Schizochytrium. Certain ***EPA*** (eicosapentaenoic acid)-producing bacteria, such as Shewanella olleyana and Shewanella japonica, contain ***PUFA*** PKS-like genes that appear to be suitable for modification of ***PUFA*** prodn. in Schizochytrium. The present invention provides complete polyunsatd. fatty acid (***PUFA***) polyketide synthase (PKS) systems of Shewanella japonica and Shewanella olleyana, and biol. active fragments and homologues thereof. The invention also provides genetically modified organisms comprising ***PUFA*** PKS systems, methods of making and using such systems for the prodn. of bioactive mols. of interest, and novel methods for identifying new bacterial and non-bacterial microorganisms having such a ***PUFA*** PKS system.

AN 142:442926 CA <<LOGINID::20080318>>

TI Use of polyunsaturated fatty acid polyketide synthase genes of Shewanella japonica and Shewanella olleyana for potential use in preparation of bioactive molecules

IN Weaver, Craig A.; Zirkle, Ross; ***Metz, James G.***

PA USA

SO U.S. Pat. Appl. Publ., 179 pp., Cont.-in-part of U.S. Ser. No. 810,352.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 15

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2005100995	A1	20050512	US 2004-965017	20041013
	US 7217856	B2	20070515		
	US 6566583	B1	20030520	US 1999-231899	19990114
	US 2002194641	A1	20021219	US 2002-124800	20020416
	US 7247461	B2	20070724		
	CN 1807637	A	20060726	CN 2006-10005867	20020416
	US 2004235127	A1	20041125	US 2004-810352	20040326
	US 7211418	B2	20070501		
	AU 2005295598	A1	20060427	AU 2005-295598	20051013
	CA 2584004	A1	20060427	CA 2005-2584004	20051013
	WO 2006044646	A2	20060427	WO 2005-US36998	20051013
	EP 1805315	A2	20070711	EP 2005-816098	20051013
	US 2007244192	A1	20071018	US 2007-686866	20070315
	US 2007266455	A1	20071115	US 2007-689453	20070321
	US 2008026434	A1	20080131	US 2007-689439	20070321
	US 2008026435	A1	20080131	US 2007-689443	20070321
	US 2008026436	A1	20080131	US 2007-689450	20070321

US 2008026437	A1	20080131	US 2007-689459	20070321
US 2008032296	A1	20080207	US 2007-689451	20070321
MX 200704502	A	20070613	MX 2007-4502	20070413
IN 2007DN03525	A	20070831	IN 2007-DN3525	20070510
KR 2007084187	A	20070824	KR 2007-710711	20070511
US 2008022422	A1	20080124	US 2007-749686	20070516
US 2008032367	A1	20080207	US 2007-781871	20070723
US 2008032368	A1	20080207	US 2007-781874	20070723
US 2008032369	A1	20080207	US 2007-781877	20070723
US 2008032338	A1	20080207	US 2007-781880	20070723
US 2008038798	A1	20080214	US 2007-781867	20070723
US 2008038799	A1	20080214	US 2007-781870	20070723
US 2008044874	A1	20080221	US 2007-781875	20070723
US 2008050791	A1	20080228	US 2007-781879	20070723

L6 ANSWER 16 OF 25 CA COPYRIGHT 2008 ACS on STN

AB The invention generally relates to polyunsatd. fatty acid (***PUFA***) polyketide synthase (PKS) systems, to homologs thereof, and to isolated and recombinant nucleic acid mols. encoding biol. active domains of such a ***PUFA*** PKS system. PUFS PKS systems produce PUFAs as a natural product of the system, and comprise several multifunctional proteins assembled into a complex that conducts both iterative processing of the fatty acid chain as well as noniterative processing, including cis-trans isomerization and enoyl redn. reactions in selected system. Three open reading frames (OrfA, OrfB, and OrfC) encoding such ***PUFA*** PKS enzymes were cloned, sequenced, and characterized from both Schizochytrium and Thraustochytrium. Genes encoding Schizochytrium ***PUFA*** PKS can be selectively inactivated (knocked out) by homologous recombination resulting in cells that require ***PUFA*** supplementation for growth, and inactivated ***PUFA*** genes can be replaced at the same site with active forms of the genes in order to restore ***PUFA*** synthesis. Some or all portions of Thraustochytrium 23B ***PUFA*** PKS can function in Schizochytrium. Certain ***EPA*** (eicosapentaenoic acid)-producing bacteria, such as Shewanella olleyana and Shewanella japonica, contain ***PUFA*** PKS-like genes that appear to be suitable for modification of ***PUFA*** prodn. in Schizochytrium. The invention also provides genetically modified organisms comprising ***PUFA*** PKS systems, methods of making and using such systems for the prodn. of bioactive mols. of interest, and novel methods for identifying new bacterial and non-bacterial microorganisms having such a ***PUFA*** PKS system.

AN 141:326811 CA <<LOGINID::20080318>>

TI Polyunsaturated fatty acid polyketide synthase genes and enzyme systems from Thraustochytrium and Schizochytrium and their use for preparation of bioactive molecules

IN ***Metz, James G.*** ; Weaver, Craig A.; Barclay, William R.; Flatt,

James H.
 PA Martek Biosciences Corporation, USA
 SO PCT Int. Appl., 351 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 15

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2004087879	A2	20041014	WO 2004-US9323	20040326
AU 2004225485	A1	20041014	AU 2004-225485	20040326
CA 2520396	A1	20041014	CA 2004-2520396	20040326
EP 1623008	A2	20060208	EP 2004-758405	20040326
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK				
BR 2004009046	A	20060418	BR 2004-9046	20040326
JP 2007524377	T	20070830	JP 2006-509351	20040326
MX 2005PA10214	A	20051214	MX 2005-PA10214	20050923
IN 2005DN04359	A	20070112	IN 2005-DN4359	20050926
PRAI US 2003-457979P	P	20030326		
WO 2004-US9323	W	20040326		

L6 ANSWER 17 OF 25 CA COPYRIGHT 2008 ACS on STN

AB The invention generally relates to polyunsatd. fatty acid (***PUFA***) polyketide synthase (PKS) systems, to homologs thereof, and to isolated and recombinant nucleic acid mols. encoding biol. active domains of such a ***PUFA*** PKS system. ***PUFA*** PKS systems produce PUFAs as a natural product of the system, and comprise several multifunctional proteins assembled into a complex that conducts both iterative processing of the fatty acid chain as well as noniterative processing, including cis-trans isomerization and enoyl redn. reactions in selected system. Three open reading frames (OrfA, OrfB, and OrfC) encoding such ***PUFA*** PKS enzymes were cloned, sequenced, and characterized from both Schizochytrium and Thraustochytrium. Genes encoding Schizochytrium ***PUFA*** PKS can be selectively inactivated (knocked out) by homologous recombination resulting in cells that require ***PUFA*** supplementation for growth, and inactivated ***PUFA*** genes can be replaced at the same site with active forms of the genes in order to restore ***PUFA*** synthesis. Some or all portions of Thraustochytrium 23B ***PUFA*** PKS can function in Schizochytrium. Certain ***EPA*** (eicosapentaenoic acid)-producing bacteria, such as Shewanella olleyana and Shewanella japonica, contain ***PUFA*** PKS-like genes that appear to be suitable for modification of ***PUFA*** prodn. in Schizochytrium. The invention also provides genetically modified organisms comprising ***PUFA*** PKS systems, methods of making and using such systems for the prodn. of bioactive mols. of

interest, and novel methods for identifying new bacterial and non-bacterial microorganisms having such a ***PUFA*** PKS system.

AN 141:421059 CA <<LOGINID::20080318>>

TI Polyunsatd. fatty acid polyketide synthase genes and enzymes from Thraustochytrium and Schizochytrium and their use for prepn. of bioactive mols.

IN ***Metz, James G.*** ; Weaver, Craig A.; Barclay, William R.; Flatt, James H.

PA USA

SO U.S. Pat. Appl. Publ., 226 pp., Cont.-in-part of U.S. Ser. No. 124,800.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 15

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004235127	A1	20041125	US 2004-810352	20040326
	US 7211418	B2	20070501		
	US 6566583	B1	20030520	US 1999-231899	19990114
	US 2002194641	A1	20021219	US 2002-124800	20020416
	US 7247461	B2	20070724		
	CN 1807637	A	20060726	CN 2006-10005867	20020416
	US 2005100995	A1	20050512	US 2004-965017	20041013
	US 7217856	B2	20070515		
	US 2007256146	A1	20071101	US 2007-676971	20070220
	US 2007244192	A1	20071018	US 2007-686866	20070315
	US 2007266455	A1	20071115	US 2007-689453	20070321
	US 2008026434	A1	20080131	US 2007-689439	20070321
	US 2008026435	A1	20080131	US 2007-689443	20070321
	US 2008026436	A1	20080131	US 2007-689450	20070321
	US 2008026437	A1	20080131	US 2007-689459	20070321
	US 2008032296	A1	20080207	US 2007-689451	20070321
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	US 2008038794	A1	20080214	US 2007-778582	20070716
	US 2008038795	A1	20080214	US 2007-778590	20070716
	US 2008038796	A1	20080214	US 2007-778601	20070716
	US 2008038797	A1	20080214	US 2007-778617	20070716
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	US 2008044868	A1	20080221	US 2007-778575	20070716
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	US 2008044870	A1	20080221	US 2007-778605	20070716
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US 2008032369	A1	20080207	US 2007-781877	20070723
US 2008032338	A1	20080207	US 2007-781880	20070723
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US 2008038799	A1	20080214	US 2007-781870	20070723
US 2008044874	A1	20080221	US 2007-781875	20070723
US 2008050791	A1	20080228	US 2007-781879	20070723

L6 ANSWER 18 OF 25 CA COPYRIGHT 2008 ACS on STN

AB The present invention provides protein and cDNA sequences of a novel Schizochytrium aggregatum polyketide-like synthesis (PKS-like) gene. The present invention relates to compns. and methods for prepg. polyunsatd. long-chain fatty acids in plants, plant parts and plant cells, such as leaves, roots, fruit, and seeds. Nucleic acid sequences and constructs encoding PKS-like genes required for the polyunsatd. long-chain fatty acid prodn., including the genes responsible for ***eicosapentenoic*** acid prodn. of Shewanella putrefaciens and novel genes assocd. with the prodn. of docosahexaenoic acid in Vibrio marinus are used to generate transgenic plants, plant parts, and cells which contain and express one or more transgenes encoding one or more of the PKS-like genes assocd. with such long-chain polyunsatd. fatty acid prodn. Expression of the PKS-like genes in the plant system permits the large scale prodn. of polyunsatd. long-chain fatty acids such as ***eicosapentenoic*** acid and docosahexaenoic acid for modification of the fatty acid profile of plants, plant parts, and tissues. Manipulation of the fatty acid profiles allows for the prodn. of com. quantities of novel plant oils and products.

AN 138:380503 CA <<LOGINID::20080318>>

TI Protein and cDNA sequences of a Schizochytrium aggregatum polyketide-like synthase (PKS-like) gene and use

IN ***Facciotti, Daniel*** ; ***Metz, James George*** ; ***Lassner,***
*** Michael***

PA USA

SO U.S., 261 pp., Cont.-in-part of U.S. 6,140,486.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 15

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6566583	B1	20030520	US 1999-231899	19990114
US 6140486	A	20001031	US 1998-90793	19980604
CA 2359629	A1	20000720	CA 2000-2359629	20000114
WO 2000042195	A2	20000720	WO 2000-US956	20000114
WO 2000042195	A3	20000928		

BR 2000008760	A	20021008	BR 2000-8760	20000114
JP 2002534123	T	20021015	JP 2000-593752	20000114
MX 2001PA07153	A	20030721	MX 2001-PA7153	20010713
US 2002194641	A1	20021219	US 2002-124800	20020416
US 7247461	B2	20070724		
US 2003101486	A1	20030529	US 2002-331061	20021227
US 7214853	B2	20070508		
US 2004235127	A1	20041125	US 2004-810352	20040326
US 7211418	B2	20070501		
US 2005100995	A1	20050512	US 2004-965017	20041013
US 7217856	B2	20070515		
US 2005266440	A1	20051201	US 2005-87100	20050321
US 7259295	B2	20070821		
US 2005273883	A1	20051208	US 2005-87084	20050321
US 7256022	B2	20070814		
US 2005273884	A1	20051208	US 2005-87085	20050321
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US 2007089199	A1	20070419	US 2006-452138	20060612
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US 2007256146	A1	20071101	US 2007-676971	20070220
US 2007244192	A1	20071018	US 2007-686866	20070315
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US 2008038797	A1	20080214	US 2007-778617	20070716
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US 2008044872	A1	20080221	US 2007-778611	20070716
US 2008044873	A1	20080221	US 2007-778614	20070716
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US 2008032338	A1	20080207	US 2007-781880	20070723
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US 2008038799	A1	20080214	US 2007-781870	20070723
US 2008044874	A1	20080221	US 2007-781875	20070723
US 2008050791	A1	20080228	US 2007-781879	20070723

L6 ANSWER 19 OF 25 CA COPYRIGHT 2008 ACS on STN

AB The invention generally relates to polyunsatd. fatty acid (***PUFA***) polyketide synthase (PKS) systems isolated from or derived from non-bacterial organisms, to homologues thereof, to isolated nucleic acid mols. and recombinant nucleic acid mols. encoding biol. active domains of such a ***PUFA*** PKS system, to methods of making and using such system for the prodn. of bioactive mols. of interest, and to novel methods for identifying new bacterial and non-bacterial microorganisms having such a ***PUFA*** PKS system. The domain structure, the genomic nucleotide sequence and the encoded amino acid sequence of three multidomain open reading frames from Schizochytrium ***PUFA*** PKS system are disclosed. The nucleotide sequences and the encoded amino acid sequences of the sep. domains are also provided. The ***PUFA*** PKS system of the invention is used for fermn. of polyunsatd. fatty acids of desired chain length and with desired nos. of double bonds and for prodn. of other bioactive mols. such as drugs.

AN 137:321977 CA <<LOGINID::20080318>>

TI Characterization and sequence of polyunsaturated fatty acid (***PUFA***) polyketide synthase systems from Schizochytrium and uses for production of PUFAs, drugs and other bioactive molecules

IN ***Metz, James G.*** ; Barclay, William R.; Flatt, James H.; Kuner, Jerry M.

PA Omegatech, Inc., USA; Martek Biosciences Boulder Corporation

SO PCT Int. Appl., 217 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 15

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI WO 2002083870	A2	20021024	WO 2002-US12254	20020416
WO 2002083870	A3	20030327		

CA 2444164	A1	20021024	CA 2002-2444164	20020416
AU 2002303394	A1	20021028	AU 2002-303394	20020416
EP 1385934	A2	20040204	EP 2002-731415	20020416
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
CN 1535312	A	20041006	CN 2002-811749	20020416
JP 2005510203	T	20050421	JP 2002-582209	20020416
CN 1807637	A	20060726	CN 2006-10005867	20020416

L6 ANSWER 20 OF 25 CA COPYRIGHT 2008 ACS on STN

AB The invention generally relates to polyunsatd. fatty acid (***PUFA***) polyketide synthase (PKS) systems isolated from or derived from non-bacterial organisms, to homologs thereof, to isolated nucleic acid mols. and recombinant nucleic acid mols. encoding biol. active domains of such a ***PUFA*** PKS system, to genetically modified organisms comprising ***PUFA*** PKS systems, to methods of making and using such systems for the prodn. of bioactive mols. of interest, and to novel methods for identifying new bacterial and non-bacterial microorganisms having such a ***PUFA*** PKS system. Thus, three open reading frames encoding subunits of ***PUFA*** PKS are discovered in Schizochytrium strain ATCC 20888. OrfA comprises domains for .beta.-keto-acyl-ACP synthase (KS), malonyl-CoA:ACP acyltransferase, acyl carrier protein (ACP) 1 and 2, and ketoreductase; OrfB comprises domains for KS, chain length factor, acyltransferase, and enoyl-ACP reductase (ER); and OrfC comprises domains for FabA-like .beta.-hydroxyacyl-ACP dehydrase 1 and 2, and ER. Use of ORF fragments as probes also identified homologous genomic sequences in Traustochytrium sp. 23B and Ulkenia (BP-5601).

AN 138:50916 CA <<LOGINID::20080318>>

TI ***PUFA*** polyketide synthase systems from Thraustochytrid microorganisms and their uses for genetic engineering and production of bioactive molecules

IN ***Metz, James G.*** ; Flatt, James H.; Kuner, Jerry M.; Barclay, William R.

PA USA

SO U.S. Pat. Appl. Publ., 133 pp., Cont.-in-part of U.S. Ser. No. 231,899.
CODEN: USXXCO

DT Patent

LA English

FAN.CNT 15

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI US 2002194641	A1	20021219	US 2002-124800	20020416
US 7247461	B2	20070724		
US 6566583	B1	20030520	US 1999-231899	19990114
CN 1807637	A	20060726	CN 2006-10005867	20020416
US 2004235127	A1	20041125	US 2004-810352	20040326

US 7211418	B2	20070501		
US 2005100995	A1	20050512	US 2004-965017	20041013
US 7217856	B2	20070515		
US 2005266440	A1	20051201	US 2005-87100	20050321
US 7259295	B2	20070821		
US 2005273883	A1	20051208	US 2005-87084	20050321
US 7256022	B2	20070814		
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L6 ANSWER 21 OF 25 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation
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STN DUPLICATE 2

AB Polyunsaturated fatty acids (PUFAs) are essential membrane components in higher eukaryotes and are the precursors of many lipid-derived signaling molecules. Here, pathways for ***PUFA*** synthesis are described that do not require desaturation and elongation of saturated fatty acids. These pathways are catalyzed by polyketide synthases (PKSs) that are distinct from previously recognized PKSs in both structure and mechanism. Generation of cis double bonds probably involves position-specific isomerases; such enzymes might be useful in the production of new families of antibiotics. It is likely that ***PUFA*** synthesis in cold marine ecosystems is accomplished in part by these PKS enzymes.

AN 2001:378301 BIOSIS <<LOGINID::20080318>>

DN PREV200100378301

TI Production of polyunsaturated fatty acids by polyketide synthases in both prokaryotes and eukaryotes.

AU ***Metz, James G.*** [Reprint author]; Roessler, Paul; ***Facciotti,***
*** Daniel*** ; Levering, Charlene; Dittrich, Franziska; ***Lassner,***
*** Michael*** ; Valentine, Ray; Lardizabal, Kathryn; Domergue, Frederic;
Yamada, Akiko; Yazawa, Kazunaga; Knauf, Vic; Browse, John

CS Omega Tech, 4909 Nautilus Court North, Boulder, CO, 80301-3242, USA
jmetz@omegadha.com; jab@wsu.edu

SO Science (Washington D C), (13 July, 2001) Vol. 293, No. 5528, pp. 290-293.
print.

CODEN: SCIEAS. ISSN: 0036-8075.

DT Article

LA English

ED Entered STN: 8 Aug 2001

Last Updated on STN: 19 Feb 2002

L6 ANSWER 22 OF 25 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation
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STN

AB The present invention relates to compositions and methods for preparing poly-unsaturated long chain fatty acids in plants, plant parts and plant cells, such as leaves, roots, fruits and seeds. Nucleic acid sequences and constructs encoding PKS-like genes required for the poly-unsaturated long chain fatty acid production, including the genes responsible for ***eicosapentenoic*** acid production of *Shewanella putrefaciens* and

novel genes associated with the production of ***docosahexenoic*** acid in *Vibrio marinus* are used to generate transgenic plants, plant parts and cells which contain and express one or more transgenes encoding one or more of the PKS-like genes associated with such long chain polyunsaturated fatty acid production. Expression of the PKS-like genes in the plant system permits the large scale production of poly-unsaturated long chain fatty acids such as ***eicosapentenoic*** acid and ***docosahexenoic*** acid for modification of the fatty acid profile of plants, plant parts and tissues. Manipulation of the fatty acid profiles allows for the production of commercial quantities of novel plant oils and products.

AN 2001:259519 BIOSIS <<LOGINID::20080318>>

DN PREV200100259519

TI Production of polyunsaturated fatty acids by expression of polyketide-like synthesis genes in plants.

AU ***Facciotti, Daniel*** [Inventor, Reprint author]; ***Metz, James***
*** George*** [Inventor]; ***Lassner, Michael*** [Inventor]

CS Davis, CA, USA

ASSIGNEE: Calgene LLC

PI US 6140486 20001031

SO Official Gazette of the United States Patent and Trademark Office Patents,
(Oct. 31, 2000) Vol. 1239, No. 5. e-file.

CODEN: OGUPE7. ISSN: 0098-1133.

DT Patent

LA English

ED Entered STN: 30 May 2001

Last Updated on STN: 19 Feb 2002

L6 ANSWER 23 OF 25 CA COPYRIGHT 2008 ACS on STN

AB The present invention relates to compns. and methods for prepg. polyunsatd. long-chain fatty acids in plants, plant parts and plant cells, such as leaves, roots, fruits and seeds. Nucleic acid sequences and constructs encoding polyketide synthase (PKS)-like genes required for the polyunsatd. long-chain fatty acid prodn., including the genes responsible for ***eicosapentenoic*** acid prodn. of *Shewanella putrefaciens* and novel genes assocd. with the prodn. of ***docosahexenoic*** acid in *Vibrio marinus* [*Moritella marina*] are used to generate transgenic plants, plant parts, and cells which contain and express one or more transgenes encoding one or more of the PKS-like genes assocd. with such long-chain polyunsatd. fatty acid prodn. PKS-like genes from *Schizochytrium aggregatum* are also provided. Expression of the PKS-like genes in the plant system permits the large scale prodn. of polyunsatd. long-chain fatty acids such as ***eicosapentenoic*** acid and ***docosahexenoic*** acid for modification of the fatty acid profile of plants, plant parts, and tissues. Manipulation of the fatty acid profiles allows for the prodn. of com. quantities of novel plant oils and products.

AN 133:115928 CA <<LOGINID::20080318>>

TI Schizochytrium polyketide synthase genes and transgenic plants for
polyunsaturated long-chain fatty acid production

IN ***Facciotti, Daniel*** ; ***Metz, James George*** ; ***Lassner,***
*** Michael***

PA Calgene, LLC, USA

SO PCT Int. Appl., 303 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 15

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000042195	A2	20000720	WO 2000-US956	20000114
WO 2000042195	A3	20000928		
US 6566583	B1	20030520	US 1999-231899	19990114
CA 2359629	A1	20000720	CA 2000-2359629	20000114
EP 1147197	A2	20011024	EP 2000-904357	20000114
BR 2000008760	A	20021008	BR 2000-8760	20000114
JP 2002534123	T	20021015	JP 2000-593752	20000114
MX 2001PA07153	A	20030721	MX 2001-PA7153	20010713
PRAI US 1999-231899	A	19990114		
US 1997-48650P	P	19970604		
US 1998-90793	A2	19980604		
WO 2000-US956	W	20000114		

L6 ANSWER 24 OF 25 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation
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DUPLICATE 3

AB There is considerable evidence correlating the production of increased proportions of membrane unsaturated fatty acids (UFAs) with bacterial growth at low temperatures or high pressures. In order to assess the importance of UFAs to microbial growth under these conditions, the effects of conditions altering UFA levels in the psychrotolerant piezophilic deep-sea bacterium *Photobacterium profundum* SS9 were investigated. The fatty acids produced by *P. profundum* SS9 grown at various temperatures and pressures were characterized, and differences in fatty acid composition as a function of phase growth, and between inner and outer membranes, were noted. *P. profundum* SS9 was found to exhibit enhanced proportions of both monounsaturated (MUFAs) and polyunsaturated (PUFAs) fatty acids when grown at a decreased temperature or elevated pressure. Treatment of cells with cerulenin inhibited MUFA but not ***PUFA*** synthesis and led to a decreased growth rate and yield at low temperature and high pressure. In addition, oleic acid-auxotrophic mutants were isolated. One of these mutants, strain EA3, was deficient in the production of MUFAs and was both low-temperature sensitive and high-pressure sensitive in the absence of

exogenous 18:1 fatty acid. Another mutant, strain EA2, produced little MUFA but elevated levels of the ***PUFA*** species eicosapentaenoic acid (***EPA*** ; 20:5n-3). This mutant grew slowly but was not low-temperature sensitive or high-pressure sensitive. Finally, reverse genetics was employed to construct a mutant unable to produce ***EPA***. This mutant, strain EA10, was also not low-temperature sensitive or high-pressure sensitive. The significance of these results to the understanding of the role of UFAs in growth under low-temperature or high-pressure conditions is discussed.

AN 1999:242383 BIOSIS <<LOGINID::20080318>>

DN PREV199900242383

TI Monounsaturated but not polyunsaturated fatty acids are required for growth of the deep-sea bacterium *Photobacterium profundum* SS9 at high pressure and low temperature.

AU Allen, Eric E.; ***Facciotti, Daniel*** ; Bartlett, Douglas H. [Reprint author]

CS Center for Marine Biotechnology and Biomedicine, Scripps Institution of Oceanography, University of California, San Diego, 8604 La Jolla Shores Dr., 4405 Hubbs Hall, La Jolla, CA, 92093-0202, USA

SO Applied and Environmental Microbiology, (April, 1999) Vol. 65, No. 4, pp. 1710-1720. print.

CODEN: AEMIDF. ISSN: 0099-2240.

DT Article

LA English

ED Entered STN: 17 Jun 1999

Last Updated on STN: 17 Jun 1999

L6 ANSWER 25 OF 25 CA COPYRIGHT 2008 ACS on STN

AB The present invention relates to compns. and methods for prepg. polyunsatd. long chain fatty acids in plants, plant parts and plant cells. Nucleic acid sequences and constructs encoding polyketide synthesis (PKS)-like genes required for the poly-unsatd. long chain fatty acid prodn., including the genes responsible for eicosapentaenoic acid prodn. of *Shewanella putrefaciens* and novel genes assocd. with the prodn. of docosahexaenoic acid in *Vibrio marinus* [*Moritella marina*] are used to generate transgenic plants, plant parts and cells which contain and express one or more transgenes encoding one or more of the PKS-like genes assocd. with such long chain polyunsatd. fatty acid prodn. Expression of the PKS-like genes in the plant system permits the large scale prodn. of polyunsatd. long chain fatty acids such as eicosapentaenoic acid and docosahexaenoic acid for modification of the fatty acid profile of plants, plant parts and tissues. Manipulation of the fatty acid profiles allows for the prodn. of com. quantities of novel plant oils and products.

AN 130:62050 CA <<LOGINID::20080318>>

TI Polyketide synthesis genes of marine microbes and production of polyunsaturated fatty acids and ***PUFA*** -containing plant oils with

transgenic plants
IN ***Facciotti, Daniel*** ; ***Metz, James George*** ; ***Lassner,***
*** Michael***

PA Calgene, LLC, USA
SO PCT Int. Appl., 153 pp.
CODEN: PIXXD2

DT Patent
LA English
FAN.CNT 15

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI WO 9855625	A1	19981210	WO 1998-US11639	19980604
CA 2283422	A1	19981210	CA 1998-2283422	19980604
EP 1003869	A1	20000531	EP 1998-925264	19980604
BR 9809946	A	20000801	BR 1998-9946	19980604
JP 2002510205	T	20020402	JP 1999-502926	19980604
IN 1998MA01219	A	20050304	IN 1998-MA1219	19980604
MX 9911200	A	20010629	MX 1999-11200	19991203
PRAI US 1997-48650P	P	19970604		
WO 1998-US11639	W	19980604		

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